

Journal

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New Wave to Hard Science Fiction



"My Conception of Paul Anderson's Tao Zero" - Greg Bear

This issue of the YLEM Journal presents interviews with three science fiction writers, continuing the project started last year of dialogs with authors at the leading edge of art, science, and technology.

Greg Bear is the author of at least twenty-two novels and two collections of short stories. In 1984, "Hardfought" and "Blood Music" won the Nebula Awards for best novella and novelette, respectively; "Blood Music" went on to win the Hugo Award. In 1987, "Tangents" won the Hugo and Nebula awards for best short story. *Moving Mars* (1993) won the 1994 Nebula for best novel. *Darwin's Radio* was awarded the Nebula in 2001. The 1982 story "Blood Music" and its novelization in 1985 caused particular attention to be focused on Bear, since it was one of the earliest works of fiction to treat the emerging science of nanotechnology. Bear's works range in style from space operas to ghost stories, but his use of leading-edge scientific theory marks him as a quintessential "hard science fiction" writer. While *Queen of Angels* (1990) is a detective story wrapped inside an avant-garde exploration of language, *Darwin's Radio* and the recent *Darwin's Children* deal with the devastating effects of intelligent evolution on a society which can not comprehend it. Bear has differentiated between hard science fiction and fantasy by stating that fantasy reflects the internal world, and hard science fiction the external. Bear is very approachable at his web site, www.gregbear.com.

Samuel R. Delany no longer writes science fiction, and his science fiction works are now in the process of being brought back into print by Vintage. I interviewed him when he visited the San Francisco Bay Area on the occasion of the issuing of his short story collection *Aye, and Gomorrah*. Delany's first science fiction novel, *The Jewels of Aptor*, was published in 1962, when its author was nineteen years of age. His last science fiction novel, *Stars In My Pocket Like Grains of Sand*, was published in 1984. Delany's magnum opus is his novel *Dhalgren* from 1974. Delany was associated with a group of writers including Thomas M. Disch, Roger Zelazny, Joanna Russ, and Ursula K. LeGuin, whose writing was characterized by an emphasis on literary quality and social analysis rather than hardware and technology. This movement was called New Wave, and was associated with a similar movement in England centered around the magazine *New Worlds*, edited by Michael Moorcock, and including such writers as J. G. Ballard and Brian W. Aldiss. In addition to his ten science fiction novels (winners of four Nebula awards and one Hugo), Delany has also written fantasy, pornography, autobiography, and critical analysis, including a non-fiction work, *Silent Interviews*, in which he investigates the process of being interviewed and even interviews himself. Delany is the subject of several book-length studies of his work, and is a legendary figure. Delany is also African-American, gay, and dyslexic, aspects which I did not address in my interview.

David Brin is also a hard science fiction writer, and is a scientist as well. He has written at least fifteen novels since 1980, and has won Hugo, Nebula, Locus, and John W.

Campbell awards. His 1989 ecological thriller, *Earth*, foreshadowed global warming, cyberwarfare and the worldwide web. A 1998 movie, directed by Kevin Costner, was loosely based on *The Postman*. The recent *Kiln People* explores a near future when people may be able to be in two places at once. The 144 page hardcover "The Life Eaters" is a graphic novel with a portrayal of an alternate World War II. Brin's non-fiction book – *The Transparent Society: Will Technology Make Us Choose Between Freedom and Privacy?* – won the Freedom of Speech Award of the American Library Association and deals with issues of openness and liberty in the new wired-age. Brin's web page is <http://www.davidbrin.com/>. Brin is possibly best known for his *Uplift Saga* consisting of six novels and a non-fiction guide, postulating a universe of sentient creatures who consider humans to be inferior because they cannot produce evidence of forbears to give them a pedigree in this universe. Sentient dolphins and chimpanzees are characterized with depth and deftness.

The process of interviewing these three writers forced me to confront aspects of the in-person interview which had not manifested for me in the past. When I contacted Greg Bear, he suggested that if he was not able to co-ordinate his reading schedule with mine, we could consider doing the interview by email. I responded that I had never done an email interview before, and that the prospect did not particularly appeal to me. Fortunately, we were able to sit down at Dark Carnival bookstore in Berkeley, CA, and talk in person. Bear then polished the interview material I supplied to him and even provided images. This is typical of my experience over the last forty years of interviewing, although it is only in the last few years that I have submitted interview material to subjects before publication.

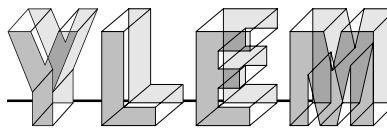
I set up the interview with Samuel Delany through his publicist at Vintage. In researching materials on him, I kept finding references to the fact that Delany tends to conduct interviews by mail, and refuses in-person interviews. Surprised, I called the publicist for reassurance, and was told that he would indeed meet me in person. Delany greeted me at his hotel suite in San Francisco, and was extremely gracious to me, but I constantly felt that he was uncomfortable with the process, which made me uncomfortable, and I terminated the interview sooner than I would have otherwise. I think the interview came out very well, but I am haunted by a feeling that something about it should have been different.

When I contacted David Brin and suggested visiting him at his home outside San Diego, CA, he suggested that an email interview would save me the trouble of driving all the way down there. I assured him that I would be in that vicinity anyway, visiting my son and his family in Orange County. He relented, but told me that he wouldn't have much time to spend with me. When I got to Brin's home, I discovered a veritable estate with a swimming pool and a stretch of land. Instead of sitting down with me, Brin invited me to follow him while he pruned his fruit trees with long-handled clippers. I put my portable tape recorders into a bag on my shoulder and tracked him while he shouted answers to my questions and handed pieces of ripe fruit to my wife, who then dropped them into the bag with the tape recorders. I realized that in forty years of interviewing I had never had an

experience like this, and I was amazed that anything came of the interview. I think this was Brin's subtle way of conveying to me that an email interview would have been a more optimal approach.

Delany likens a face-to-face interview with a prisoner being interrogated by a guard. This is an appropriate metaphor. Instead, he writes interviews with himself. I'm not clear why he finds it necessary to do this. Why not just write an essay? But it is true that the interviewer and the subject are inherently at cross purposes. The subject sees the interviewer as a press agent. The interviewer sees the subject as the author sees the reader—an audience who is directed through a process which results in change. One definition of fiction is "ritual game and revelation." The protagonist goes through a process and comes out changed. Thus the question "Whose story is it?" results in the identification of the true protagonist as the one who undergoes an epiphany. And by going through this process with the protagonist, the reader also reaches an epiphany. This is the whole point of writing fiction. And this is the point of the face-to-face interview. The subject is led through a process by the interviewer and reaches an epiphany, but only if the interviewer is in control. If the subject retains control, what remains is an essay. I believe that the best example I can offer of the kind of epiphany I'm talking about is in my interview with William Gibson in YLEM Journal Volume 23 Number 4, March-April 2003, available at www.ylem.org.

More about my adventures with the interviewing process in an upcoming issue of the YLEM Journal, which will contain more interviews with science fiction authors.



**YLEM Forum: "Sex, Time and Power"
Wednesday, May 12, 7:30 PM
McBean Theater, The Exploratorium
3601 Lyon St., San Francisco, CA 94123
Sponsored by YLEM: Artists Using Science and
Technology - great Forums for 23 years!
The YLEM Forum is free, open to the public and
wheelchair accessible.**

In Sex, Time and Power, Leonard Shlain presents yet another startling hypothesis at the YLEM Forum. Previously he lectured at it about his other daring books, *Art and Physics* and *The Alphabet Versus the Goddess*. An Associate Professor of Surgery at UCSF, he brings his knowledge of physiology into play in this book, as well as his voracious appetite for research.

Big-brained Homo Sapiens suddenly emerged some 150,000 years ago, he argues, because of profound alterations in female sexuality.

Long ago, due to the narrowness of her bipedal pelvis and the increasing size of her infants' heads, the human female began to experience high childbirth death rates, precipitating a crisis for the species. Natural selection adapted her to this unique environmental stress by drastically reconfiguring her hormonal reproductive cycle. Her estrus disappeared and menses mysteriously entrained with the periodicity of the moon. Women formulated the concept of a month, which in turn allowed them to make the connection between sex and pregnancy. Upon learning the majestic secret of time these ancestral females then gained the power to refuse sex when they were ovulating. Men were forced to confront women who possessed a mind of their own.

Women taught men about time and the men used this knowledge to become the planet's most fearsome predator. Unfortunately, they also discovered that they were mortal. Men then invented religions to soften the certainty of death. Subsequently, they belatedly grasped the function of sex. The possibility of achieving a kind of immortality through heirs drove men to construct patriarchal cultures whose purpose was to control women's reproductive choices. Come hear how these archaic insights altered all subsequent human cultures.

Dr. Shlain lectures widely both here and in Europe. He has been a keynote speaker for such diverse groups as the Smithsonian, Harvard University, Salk Institute, Phillips collection, Los Alamos National Laboratory, NASA Johnson Space Center, and the European Union's Ministers of Culture. He has been interviewed on both PBS and NPR. His lectures are as lively as his writing!

Contact: Trudy Reagan, 650-856-9593,
trudymyrrh@earthlink.net Complete information listed at
<http://www.ylem.org/flash/forum/calendar.html> or <http://www.ylem.org/text/forum/calendar.html> for modem users.

LM: Can you start out by talking about retroviruses?

GB: Of course. HIV is a retrovirus. Retroviruses are viruses that write their code into the genome, and wait a while before they express themselves again. Sometimes they can stay dormant for a very long time. We have the remains of retroviruses in our genes that have been there for at least thirty million years. Now, for the most part they can't really express themselves clearly; they sort of mumble. Nevertheless, we utilize some of those imported viral genes in interesting ways. So it appears that in many cases, we've co-opted our former diseases and made them part of our genetic library.

LM: That's what your books *Darwin's Radio* and *Darwin's Children* are dealing with?

GB: Yes. In *Darwin's Radio*, an old, supposedly defunct retrovirus manages to reassemble and redefine, and basically carries an evolutionary signal between individuals of a certain social group, that is, committed couples, male and female. The male sheds the virus, the female picks it up, and suddenly the female is infected with SHEVA, which is perceived by the society as a disease that causes miscarriages—grossly misshapen fetuses. It turns out, as they investigate further, that those miscarriages are, in fact, just another interim fetus. It produces its own specialized egg, its genome reworked according to short-hand instructions encoded in SHEVA, and that implants and the women are pregnant again—without additional sex. So it looks like birth without sex—not quite virgin birth, however. You can see how this could totally goof us up, totally confuse us. In fact, it turns out we don't know anything about evolution, we don't know anything about this extended form of species sexuality. So in our confusion, we start to clamp down and try and treat SHEVA as a disease, cure it, shut it off, and that doesn't work. *Darwin's Radio* begins with a weird disease and ends with the birth of a new kind of human being, Stella Nova. The story continues in *Darwin's Children*, where Stella is a teenager, and eventually has to get together with her own kind and learn how to create a new society in a very conflicted, fearful America.

LM: This is something that is generated in *Blood Music* in the Eighties, the nanotechnology thing. You basically came up with that before the scientists did, or paralleled the scientists...

GB: Back in the seventies and eighties, a few scientists knew about read-write DNA, which is the core of *Blood Music*. They knew about retroviruses. A few pioneers, such as Howard Temin, got pretty theoretical about the implications of retroviruses and read-write DNA. But there was heavy resistance to these new ideas, and I certainly did not hear about them, even when I was writing *Blood Music*. Because of that skepticism and resistance, we weren't prepared for the onslaught of HIV, for example. That kind of fossilized thinking was what I—unwittingly, I think—was trying to knock apart in *Blood Music*. It looked to me as if DNA was a computational system. That is a very early version of what we now today call bioinformatics, or systems biology. There was also an aspect of nanotechnology, but I was dealing entirely with biological systems—not tiny machines. Though it was very clear to me—and still is today—that what protein molecules do is very much what nanotechnologists envision doing. The two versions of



Greg Bear.
Photo by Maria Malinowycz ©1999

nanotech--biotech and tiny machines--will very likely collaborate nicely in the coming decades.

LM: The concept that evolution happens not only over millions of years, but can be accelerated to happen right now.

GB: Living systems do actually build up a "library" of experience over hundreds of thousands and millions of years, but I also believe that there's a grammar of evolution buried in the genome that is expressed in tightly constrained ways, which we can see sometimes in the fossil record and in living species. If we take a look, for example, at how you would make a dolphin, way back in Jurassic times, reptiles don't have the same spinal structure to allow tail flukes to move up and down. Their flukes move side to side, right and left, just as in sharks and bony fish. The reptiles just don't have that flexible, spinal up-and-down motion. That version of the spine apparently occurred first with mammal-like reptiles, who passed it on to mammals. Mammals aren't very good at slithering, extreme side-wise motion, and that explains why dolphin tails go one way and ichthyosaur tails go the other way. It also explains why there are no snakes among the mammals, but there are snake-like forms among amphibians and of course among the reptiles. Our spines changed at one point. When something major happens, like that, you can't go back – there's a roadblock set into your bauplan. You'll never make a snake again. That's a kind of evolutionary syntactic shift. You've changed something in the sentence structure, or the syntax, so to speak, of the bauplan of the creatures, the bauplan being the overall phenotypic scheme. That gave me a clue that what we're really dealing with is similar to a linguistic system. Living beings are like architects that carry their own blueprints around, and modify them occasionally, and in a wide variety of ways, using differ-

ent types of evolutionary processes. And organisms modify their blueprint not just through totally random rearrangements, although that contributes, too, but by “looking” at the environment, and making a long-term analysis of the ecological conditions, the rules, and eventually knowing when to make this sort of change, and when to make that sort of change, to improve the statistical odds of survival. One way we measure our environment is through the immune system and stress chemistry. Both function as a kind of biological radar. We know that both of these systems can energize the expression of jumping genes, as well as viruses--and that may be the communicative loop we're looking for.

LM: So this isn't strict Darwinism...

GB: I think it's a variety of Darwinism. But Darwin was smart. He never actually tried to pin down what caused variation. He knew he didn't have the science, the understanding, to make strong assertions in that regard. He just said, “When variation occurs, these are the rules.” And he turned out to be pretty correct that way. Natural selection is kind of a grand arbiter. If you don't make the right choices, or have the proper anatomy, you die. The more those like you die, the less your group reproduces. That makes sense. What doesn't make sense is the view that that all variation has to be random, that creativity can only arise from completely random factors in the genome. We've had a difficult time finding random changes in the genome that are not edited out. We do find them--they generally cause disease—but most of the time, random errors are deleted or corrected. That means that if randomness is the sole force in evolution, we're forced to contemplate even more immense periods of time--hundreds of billions or trillions of years--to explain the kind of variation that we do see. What we frequently find in the genome is variation that is not random—transposons that move themselves and move other genes around. We find changes in the way genes are activated and expressed. We are forced to look at epigenetics, which examines how genes are turned on and off. If a gene is shut down, it might as well not be there--but at a later time, following certain rules, it can be revived and put back on line. Sometimes whole groups of genes, even parts of chromosomes, are shut down, and that certainly can (and does) affect phenotype. There are many ways of controlling how genes are expressed, all of which can affect our physical nature, allowing changes that persist over long periods of time and many generations. We can control our shape in so many different ways besides just random mutation, and that means we really have to re-examine the foundation of the neo-Darwinian theory of evolution, and likely revise it wholesale.

LM: So you're postulating a kind of creativity that's not human creativity...

GB: It's related to our creativity. Nature utilizes the same principles from bottom to top. Creativity and problem-solving is what happens when a distributed network, consisting of flexible nodes that can learn, adapt to change. If you get those flexible nodes and put them together and somehow manage to get the whole thing up and running--a very substantial problem we are far from solving!--you have a distributed network. The genome is a kind of neural network. That means that it does respond to outside input, and not just on an everyday basis, as in when you run and activate certain genes in your lungs and muscles, but in the germ-line cells. We have seen many instances in organisms, plants and animals as well as bacteria,

of changes occurring that shouldn't have happened under the old theory.

LM: Vernor Vinge talks about a super-being that comes around after the Technological Singularity. It sounds like that's kind of the way you're pointing in *Darwin's Children*. An elevated kind of human being.

GB: Most science fiction writers have postulated that the next step in human evolution will be enhanced individual intelligence. I don't think that's what we necessarily need. I think we need higher bandwidth communication between individuals. Which is really what *Darwin's Children* is about. What these new kids are exhibiting is not bigger brains, huge bald heads with pulsing veins. What they're showing is very high bandwidth communications between each other, using enhanced modes of communication,--though not ESP!--and channels that we can't access with so much success. Smell, muscle patterns in the face, iris control, two streams of language, all of these things force the new kids to change the way they interact with each other, and to change the social structures they use. As far as god-like beings coming along and explaining themselves to us--well, smarter beings could certainly explain us to ourselves, but why would they bother? Do we sit around trying to explain to otters why they're so cute? No, except on Animal Planet, it's not worth our effort. So I don't think the techno-gods out there, the Arthur Clarkian gods, are really all that interested in us. But I'm willing to be corrected on that assertion.

LM: I wrote this down, because I didn't want to forget it: quantum logic computers.

GB: My thinking on QL thinkers began with *Heads* [1990], and with *Queen of Angels* [1990]. *Queen of Angels* posited artificial intelligence in terms of “thinkers,” as opposed to computers. Thinkers can handle non-formal programming, in other words, talking. They can give rational or useful answers back to you, should they feel so inclined. Thinkers tend to be more like users--programmers--than like programs or tools. In my conception, a quantum logic thinker would utilize the logic of the quantum level to explore a variety of answers. Sometimes, a QL thinker would come back with answers to a question you might have given it in another universe – not necessarily the question you asked right here and now, which could be frustrating. In the real world, shortly after these books were published, theorists began working on chips that would utilize quantum processes to solve formal problems--quite a different approach. I think some of the pioneers had been exploring these notions for decades, probably going back to David Deutsch and Steven Royer in the 1970s. What four or five people were thinking about suddenly appeared in science fiction, and then four years later, it's actually being done. More than likely, however, real quantum logic computers won't function the way QL thinkers do in *Heads*; those devices were kind of spooky and mystical..

LM: You seem to be aware of the leading role you're playing, staying neck-to-neck with the scientists.

GB: There's always been a very real interaction. Scientists, of course, are the ones doing the heavy lifting--science fiction writers, I believe, function more as dreamers, semi-rational muses, and stinging gadflies. I haven't actually heard from the people working on the quantum computing systems. But I have heard from a gentleman who has written monographs in this area, and he gives me more credit than I think

I'm due. It's a fun feedback system, where programmers and physicists provide the early ideas that I then take and run with. It gets back to them later, and they say "That's BS," or "That might be interesting." That's the way science fiction and science have always worked together. The fun thing now is to be able to do this in biology, which I think is the area that needs the most mixing up right now. Biology is finally getting a dose of heavy-duty re-thinking--new theorists rampaging over the landscape, working hard to explain the amazing stuff that we're discovering.

LM: I saw James Watson on TV recently, and somebody asked him how he felt about complexity theory. He said he didn't like it, because he wanted everything as simple as possible. So he was asked if he were a reductionist, and he said absolutely, he wanted to reduce everything down to the simplest way of looking at things.

GB: I think [Francis] Crick is less of a reductionist. It would be terrific if nature worked to our desires and rules, our job of discovery would be so much easier. Especially if we believe mathematics can solve all problems. I don't think we're finding that's the case. Nature does not have to follow our rules, and we have to discover what's really out there. When you see something that is not simple, it's a good beginning to find general principles, to try to reduce the problem to simple equations. You can learn a lot doing that, and you can certainly get a handle on aspects of the problem, but in biology at least, you will seldom derive a useful big theory. You won't have "solved" the big problem, so to speak. I don't much like complexity theory either. Complexity theory and emergent behaviors and so on are just the beginnings of the necessary language to understand what we're dealing with. In a sense all of these things, kind of like the word "randomness" itself, are scientific place-keepers that remind us that we don't yet know quite what's going on. They're like the blank spaces on the map that used to say "Here there be dragons." We try to change the words, while still clinging to the formal underpinnings. While we try to avoid saying "randomness," we substitute with "complexity," still assuming that our work can be formally simplified and described. But of course we're still trying to make very difficult, self-adapting systems fit into steam-engine mathematics. Complexity gives rise to emergent behavior, but we don't know how to get from one to the other. We can't create emergent behavior. We can't create artificial intelligences. We can't even create language recognition systems that are very good. (Try discussing your personal problems with the FedEx phone computers.) So we've got a long way to go, and I think a little humility is in order here, and probably a little less reductionism.

LM: Clint Sprott generates a fractal every day, and has a neural network evaluate if it's good enough to put up on the web. If not, he kills it and generates another fractal until he gets one the neural network will accept.

GB: Fractals fascinated me. They started out being gorgeous, but soon enough I realized they were all pretty boring. However pretty fractals appear, they are deceptively interesting. By that, I mean that fractals impose themselves upon our pattern recognition systems in much the same way that caffeine jazzes up our neurons. To our neurons, caffeine looks a little bit like Adenosene Triphosphate, ATP, the source of cellular power. That deception gives you a temporary and deceptive boost of jangly energy. Then after a while your neurons

grow fatigued and you fade. Fractals are like that. They're beautiful, but they don't totally describe nature, or coastlines, or anything like that, not really. We can tell the difference. Fractals are a mathematical approximation based upon repetitive calculation. We have pattern recognition systems that let us look deep into nature to see if there's something interesting and useful there. Fractals appeal to that sensibility, for a while. Then, you get fatigued. So when you get this kind of caffeine of intellectual stimulus, it's fascinating, it may tell us some interesting things, but it fades in significance over time.

LM: I've been working with people doing generative art, where an intelligence that's not the actual artist's intelligence is brought to bear.

GB: It's still not an intelligence so much as it is a tool. It's only an intelligence when it disobeys the artist and finds a way to keep on working after the artist tries to shut it down. This kind of program is a marvelous and very complicated servant friend that has no real intelligence of its own. You can tell it to do things and it will do them in a certain fashion, with some tightly defined elaborations. That's very useful. That's giving you a paint brush that can do whatever you want, basically, as long as you can describe to the paint brush what you want done. That's why you have programmers doing CGI in movies and art. You really have to be able to tell the paint brush what to do. We've taken our hand out of the equation, with all of its complexity. Long timelines of finished paintings have gone into computers, who replace our hands, but you have to tell the program exactly what to do. It takes less time to get a result, comparatively, speaking, but the artist is still primary, not the machine.

LM: On the other hand, we've got the concept of the ability of art to create a world that never existed before.

GB: And it's a fascinating world, too. But we're still staring into a deceptive mirror. These worlds are visually enchanting, but ultimately, very simple. They don't threaten us, they don't spill off the monitor and come to get us (except in movies that use CGI...). Computers let us better explore mathematical patterns, and you can manipulate and squeeze dimensions in interesting ways. It's fascinating. There's lots of cool stuff that you can do. You can build four-dimensional spheres or tesseracts now, and actually have something construct them, then unfold them and measure their properties. What would a five-dimensional cube look like, if there is one? But no computer can generate a world that is, strictly speaking, non-formal. Digital computers, at any rate. I'd like to see what analog computers can do...

LM: I was particularly struck by the style in *Queen of Angels*. In there, you actually postulate a computer writing poetry.

GB: Thinkers would tend to do that at least as much as teenagers. And perhaps for the same reasons. Frustration at not being able to express your emotions, your changing states, clearly and rationally.

LM: It seems to me that this is an avant-garde literary work.

GB: Touches of prose experimentation pop up in most of my novels. *Queen of Angels* is the most complex example, at least since *Hardfought*. I decided that in the future, fifty-six years down the road, they would likely not talk the same way we do. The language will be familiar, but it will reflect changes in grammar and style, similar to what we read when we com-

pare Shakespeare to Samuel Johnson.

LM: There's Anthony Burgess' *Clockwork Orange*...

GB: An excellent example, and an inspiration.

LM: And Brian Aldiss' *Barefoot In the Head*.

GB: All follow Joyce's example. I'm a big fan of James Joyce, especially the linguistic pyrotechnics of *Finnegans Wake*.

LM: I'm reading Beckett, Robbe-Grillet, Claude Simon, Italo Calvino. I'm finding that there's a whole genre of that kind of writing, which seems unintelligible until you really get into it. I don't think sci-fi gets into that all that much.

GB: It used to. Some of the New Wave stuff explored that territory. Aldiss is a fine example. Calvino kind of fits into New Wave, both in publication, style, and date of publication. James Sallis is another example, and some of the works by Michael Moorcock. Literature almost of exhaustion. Reminiscent of Kafka. That's kind of what we're talking about here. The style is very important, but the mood is going to be dark or confused, because that's what the Sixties and Seventies felt like to these writers. Stylistic experiment and change fits into the New Wave mode nicely. I suppose you could say I've co-opted these experiments, but not necessarily the philosophies behind them.

LM: There was a trend for a while, particularly in cyberpunk, toward dystopia, the dark vision of the bad future, but most of the hard sci-fi writers I run into are very optimistic, and think this is a really great time to be alive, and that there are wonderful things going on.

GB: I agree. It's an incredible time to be alive. Most times in history are, for most people. The Dark Ages were actually far more fertile and interesting than most historians would have let on a few decades ago. So I don't believe our world is falling apart, necessarily. I think things are getting very challenging, but for that reason, very interesting. I think we're doing fascinating and unprecedented things. For science fiction writers, that's cool. For people who don't read science fiction, it's not just confusing, it's terrifying. So that's why I recommend science fiction. It's kind of an immunization against future shock. You read enough science fiction and new ideas may not be all that confusing--or all that new! But when I write my fiction, I'm writing neither utopia nor dystopia. I'm trying to create a balanced, organic, believable world, not unlike our own in basic principles.

LM: A lot of sci-fi has a political aspect to it.

GB: True. My own politics is strongly anti-elite, whatever the elite may be. I don't like groups who seek to exclude, or gain unnecessary advantage by stepping on the necks of others. When I wrote *Vitals*, I was setting out to create a really paranoid conspiracy vision that any intellectual would find terrifying and confusing. I wasn't going to cut any slack for anybody. If you had Rightist political views, I was going to skewer you, if you had Leftist political views, you'd also be skewered. Basically because *Vitals* is about paranoia, so why should anyone feel informed, superior, or comforted? Why should anyone have their prejudices confirmed? Paranoia is about being unsure and afraid. That's what I found interesting, and occasionally disappointing, about *The X-Files*. In many ways, *The X-Files*, for all its elegance and suspense, was catering to our sense of affirmation. It was being familiarly paranoid--it seldom truly shocked or surprised. The paranoia it induced was like film noir's vision of evil--it was familiar to us, almost com-

forting, like an old security blanket. We often use literature and art to force our dark shadows into relief and give some perspective to our pain and fear. In *Vitals* I intended to cut away everybody's underpinnings, so that in the end you couldn't even trust yourself, and in some cases you couldn't trust the narrator. He would set up scenes where you were told to ignore this information, when in fact it was necessary. I figure that's the only honest way to treat conspiracy, dark visions, and paranoia. *Vitals* pissed off a number of critics. They really didn't like it at all, perhaps because it contradicted most of the basically sunny tenets of hard science fiction. Yet underlying *Vitals*--and providing the final fillip of paranoia--is an idea that I think is totally valid--the notion of a distributed bacteriological network, a huge mind, if you will, that has connections to us through our guts, our cells, the very parts of our cells that power our lives--the mitochondria. I was also saying some very discouraging things about a treasured goal of many science fiction readers. I told them, if you want to live forever, be prepared to behave like a tumor. Like a cancer tumor, because that's what you are. If you're going to be an immortal, you're ultimately going to have to gather resources and power to yourself just to protect yourself, and that's just what tumor cells do. That doesn't neatly fit into our nice Libertarian visions of rugged individuals partying at the end of time--a vision, by the way, which I do not find unattractive myself. I'm just willing to examine my dreams with a sharper scalpel than some find comfortable.

LM: So you have had some negative feedback...

GB: A little, yeah. Interestingly, a lot of women really liked *Vitals*, which surprised me. Men and women under thirty, certainly younger than forty, tended to enjoy the novel more than older readers. Fortunately, my readers tend to be quite flexible. I'm very pleased to have them, because otherwise I'd be completely sunk. I keep jumping around in style and subject matter all the time.

LM: As I understand it, you recently wrote a *Star Wars* book?

GB: *Rogue Planet*. I enjoyed *Star Wars* when it first came out, and know the universe fairly well, so I found it pretty easy to write. Also, I've done a *Foundation* novel, and there are some aspects of Asimov's universe that mirror George's. I could consider that what George [Lucas] was creating was just a corner pocket version of *Foundation*. And in another corner, far from Trantor, you might find the neglected part of the galaxy we read about in *Dune*. The *Foundation* universe is huge!

LM: Are you tempted to write fantasy?

GB: I have. I've written *Songs of Earth and Power*, and short stories. I'm working on a ghost story now called *Dead Lines*. It's a high-tech ghost story, though. Some will call it fantasy, others will wonder.

LM: What are you working on now?

GB: I'm kind of taking a break from the biological thing, but I'll get back to it. After this ghost novel, I'll be working on a very near future novel about the FBI and American politics. Beyond that, I really don't know. I have to wait and see what movie deals get done. The future is not mine to see. Fortunately, that makes things interesting.



Interview With Samuel R. Delany
Loren Means

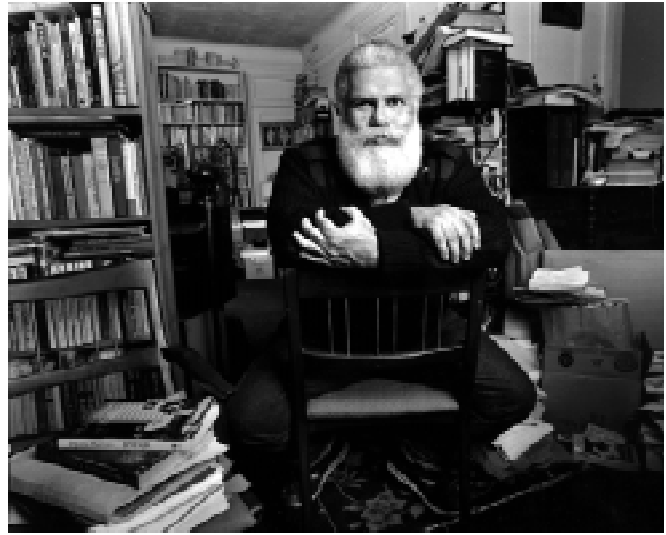
LM: I was fascinated by some of the things that Earl J. Jackson was dealing with about your writing on the Web and also in his book, *Strategies of Deviance*. I was particularly interested in the conception of science fiction as an alternative to mundane literature, as a critique of it but also as just another way of looking at things, the difference between a subjective approach and an objective approach.

SD: I think the literary precincts, or literature as it has existed since World War I, has very much been a kind of subject-dominated enterprise. By "subject", I'm using that philosophical term that philosophers use to talk about personality, consciousness, the inner self, or indeed the "self" per se. Whereas those literary forms, or let's put it this way, those para-literary forms, those other practices of writing that have grown up outside the literary precincts, have reserved the possibility for talking about the object a little bit more clearly, and criticizing the object. Especially science fiction, which actually is "science fiction" through virtue of manipulating the object, manipulating the outside, external world, and making it into shapes and structures which it hasn't had yet. While literature can say of the provinces, "You'd better get out of them or they will stifle you," science fiction can say, "What happens if you set the provinces up differently, so that they impinge on the subject in different ways, so that they are not necessarily so stifling? What happens if you organize them in ways that are different?" So it's a difference in focus. It's not an absolutely exclusive difference. Science fiction can talk about the subject too, just as literature can talk about the object as well. But the tendency in terms of the way we read it, the kinds of information we look for first when once we are clued to the fact that we are reading a literary text, we look for what it has to say about the subject more closely than we tend to look for what it has to say about the object, and vice-versa when we look at science fiction.

LM: It seems like there is an understanding that there will be a certain verisimilitude in mundane literature, whereas in science fiction, the idea is that we're going to come up with something that doesn't exist. It might exist, but it doesn't exist now.

SD: You need verisimilitude in both, but the verisimilitude in science fiction is verisimilitude to the second derivative rather than to the simple arithmetic outlay. Science fiction is a form of realism, but the kinds of things that it cleaves to tend to be a little different. As the Australian critic John Foyster said, "The best science fiction does not contravene what is known to be known." So that you're doing things that don't exist, but you're also staying within the purview of what "we know that we know." If you violate too much what is known to be known, then most people who enjoy science fiction respond to it as "that's not terribly good science fiction." When the space ships in *Star Wars* make noise that goes across the empty vacuum, and can be heard in the other space ships, most people who read science fiction say "This is fantasy, this isn't really science fiction."

LM: It seems as though there is an emphasis on hardware in science fiction, but in your work I sense more of



Samuel R. Delany

an emphasis on people, and things that are engineering on human beings to make them different than they were.

SD: Possibly. I just write the stories. I leave other people to decide what the emphases are. I think about the technology just as much, I think, as anybody else does, but then to put it in the background, although I think it's just as important.

LM: It seems to me that you're really interested in the word, in language.

SD: Among other things, yes. That's because I'm a writer.

LM: But other science fiction writers seem to me to be really interested in science.

SD: I presume some of them are.

LM: Do you read scientific journals and talk to scientists about the latest scientific concepts?

SD: When I get the chance. I think one of the reasons I am a science fiction writer is because when I was about ten or eleven years old, somebody gave me a five-year subscription to *Scientific American*, and I've been reading it religiously every month ever since, having missed a few, I'm sure. I'm a reader of popular science. I don't think anybody these days can really be an expert in more than one science, because the science itself is so complex. It's become complex in ways that it wasn't, even fifty years ago when I was a ten-year-old or eleven-year-old, as the case may be.

LM: Greg Bear has scientists come to him and say, "You're really on the leading edge of nanotechnology." Now he's talking about retroviruses and that sort of thing. That seems to be a focus of his. And he's also an excellent prose stylist. But I find it unusual that when I'm reading you, I often stop and have to read a sentence over again because it's so beautiful.

SD: Oh, well, thank you.

LM: The other writer I feel that way about is John D. MacDonald. I don't know how you feel about him.

SD: Oh, yes, he's a wonderful writer.

LM: He'll be writing some hard-boiled thing where he's murdering all sorts of people, and there'll be a turn of phrase, and I'll have to stop—"Wait a minute, what did he just say?" I think your writing is poetry to a very large extent, to a larger extent than a lot of science fiction writing

is.

SD: Thank you.

LM: I think that's wonderful. I really would like to see that be a major trend in science fiction, that it be beautiful writing, that that be the emphasis. But science fiction has a reputation in general for not being like that.

SD: This goes along with its pulp origins as opposed to all its other origins. It's got many, many. I think there was tendency, especially in the early days of science fiction, just after World War I and through the Twenties, up through the Teens, Twenties, and Thirties, to concentrate on the idea. Eventually people began to realize that if you don't express the idea, you don't really have an idea. If you don't express the idea in some way that remains and that has a certain amount of stick-to-it-ive-ness in terms of memory and perception, you don't really have an idea. The general quality of science fiction writing has just gone up. I'm just a cross-section of that process, I think.

LM: I just finished reading Robbe-Grillet and Claude Simon and Italo Calvino. I don't know of any science fiction writers who are quite that avant-garde.

SD: There were a few. There were people who tried to appropriate the same kinds of literary techniques. Do you know Brian Aldiss' *Barefoot in the Head*?

LM: That's one of my favorites.

SD: I think *Cryptozoic* is another one of his. And some of the Ballard things, again from the Sixties, have a kind of Beckett-esque feel. A lot of the work that actually came out in *New Worlds* in the Sixties into the Seventies when it kind of deliquesced, there was a lot of rapprochement back and forth between the literary precincts and science fiction precincts. *New Worlds* was one of the organs that sat right on the border during its brief and late-lamented existence.

LM: You did some editing at that point...

SD: Well, I did *Quark*, which was basically just a quarterly that survived for four quarters. We tried to do somewhat similar things, I suppose. It straddled. That's the idea. If you come from the science fiction precincts, you will never be accepted. No matter what you do, you are not going to be accepted in the literary precincts. The genre boundaries are power boundaries. You can look as literary as you want, people will look down over there and wonder what are the natives doing. That's about as far as it goes in terms of acceptance. There was *Quark*, which was a very small thing, but it had some of the same concepts.

LM: And of course you're writing all kinds of non-fiction.

SD: I haven't written science fiction really for about the last more than fifteen years now.

LM: I'm hearing about writers in England, like Jeff Noon and China Mieville.

SD: China Mieville is a very exciting writer. We have at least one very exciting writer here, L. Timmel Duchamp. A young woman. I think she lives in Vancouver. You can find some of her stuff on-line, and you can find some of her stuff in best-of-the-year anthologies. She's an extraordinary writer, very much like Mieville, and I think far more interesting than Noon.

LM: I've been wondering about the dystopian

aspect of *Dahlgren*. It seems to me that there's a dystopian aspect of science fiction, and then there's a shoot-em-up, fly-through-space aspect. I certainly find social critiques throughout your work. I guess that's one of the things you postulated where sci-fi is shooting at mundane literature.

SD: I think an attempt to see science fiction in a utopian-dystopian model is a pretty limited kind of approach to it. In fact, I think what makes science fiction interesting is that it almost has to be looked at through a much more complicated model. There is a very interesting essay – and it also works through some of his poetry – by W. H. Auden, that suggests that there are two kinds of people in the world. There are some people for whom the city is a wonderful and exciting place. The city for them is New Jerusalem. It's a place where education takes place. It's a place where people are exposed to culture. They're exposed to varieties of different people. It becomes a very exciting thing. And frequently the same people who find the city that sort of place are not all excited by life in rural areas. For them, the small town is a place circumscribed by public opinion, and everybody is looking out of everybody's window into everybody else's business. By the same token, it's subject to all sorts of natural disasters, diseases, and fire, flood, and earthquake. For them, the rural place is what you might call "the Land of the Flies." So it's not a good place. Then, by the same token, there are other people who look at the same city that some people think of as so wonderful and they see it as Brave New World. They see it as the place where everybody wears the same clothing and everybody goes to work at the same time and comes home at the same time, crowds, and what have you. For them, the city is Brave New World, the image that Huxley presented back in the Thirties. By the same token, the rural area, rural life is this Arcadian place where everything is natural foods and no machine is larger than one person can fix in an afternoon. The relationships between people are thorough and authentic, and you can get your hands in soil, and all of these good things.

I think the way science fiction functions is a very much a complex of all four visions. When you have a science fiction story, there will be elements of New Jerusalem, there will be elements of Brave New World, there will be elements of Arcadia, the wonderful rural landscape, and there will be elements of the Land of the Flies. Frequently you will have all four in the same story. Especially if you have novels, then you're even more likely to get all four mixed in throughout. For precisely that reason, I don't think you can usually map most science fiction tales, as opposed to classical utopias-dystopias onto this utopian-dystopian model, because they have both sides to both images. Both the urban, the rural model. They both have the good and the bad of both sides. Even more recently, a third axis has been put across this double axis that we have. You find some of this in M. John Harrison's trilogy *The Sound of Wings*. You have a notion of, on the one hand, what I call techno-geno city. That's the place where you walk down the street and there are twenty-seven computers in the gutter because some offices decided to change their computers. They don't even bother to throw them away, they just put them out on the street. Or the person whose coffee table is propped up under one leg with twenty-seven video cassettes. This excess of technology. Which is an

interesting place. This is one of the cyberpunks' images of the techno-geno city, this excess of technology. By the same token, you have other images that work into this. The name for it I take from Harrison's work, *The Land of the Afternoon*, which is the place where the pollution has gotten so intense that it turns around and becomes beautiful. The green mold on the swamps. You have to go through them wearing a gas mask, but as long as you wear your gas mask, it's actually rather pretty.

So you have all these different images that work into science fiction stories. Rarely do you have just one. You're often going from one to another. You have the polluted world that's ugly and polluted, you have the polluted world that produces a certain kind of beauty through the pollution. You have the technology that is functioning, and then you have the technology that produces just junk. You have all of these images, and various stories will draw from all of these image galleries. It's a much richer model for a complex landscape than a simple dystopian (everything is bad) or utopian view (everything is good). I think science fiction becomes science fiction precisely when it gets away from this much more Nineteenth-Century-oriented utopian-dystopian model, that of course goes back to Thomas More, but remains persistent up through the Nineteenth Century. Then only with World War I and the two decades just after World War I, it begins to blossom into something more complex.

LM: H. G. Wells goes through transitions where he's against the machine, then he's in favor of the machine, then he's against it again.

SD: I don't include Wells in science fiction at all. I think he's very much one of the last literary writers. I think his notion is very much within this utopian-dystopian model. The Wells novel, like *The Time Machine*, we get there and it looks all pretty, and the Eloi are so charming, but it turns out that it's dystopian—ah, they are just food for the Morlocks. You have the two images, but one is essentially a mask for the other one, and the proper interpretation, as we now know, is really that it is ugly. What seemed to be beautiful turns out to be ugly underneath it all, which is still a pretty simplistic notion. He's still working only with the two images, rather than with the more complex concepts that you get once you get science fiction.

If literature starts in 1917, which according to Terry Eagleton it does, then science fiction can't certainly have started too much before it, probably started a couple of years after. I think science fiction as we know it starts between '26 and '27, when the name actually comes. I don't think there's really any reason to talk about science fiction before 1927. I think you've got what you might want to call "proto-science fiction", but I don't think you have the real science fictional sensibility, that is to say a melding of science with fiction. For one thing, you can't meld science with fiction until you have science and until you have fiction. Science and fiction don't separate out until the early part of the Nineteenth Century. The two of them were all mixed up together, so that you don't really have two discourses that can then impinge on each other, which they begin to do slowly throughout the Nineteenth Century. This actually happens when you get past World War I, I think.

LM: So who would you say would be the writers who were taking a mature approach to science fiction in the Twenties?

SD: It wasn't a matter of mature, it's just a matter of generically recognizable. It's a matter of codes that make certain kinds of sentences make sense. In science fiction, those codes are in place by 1937. They're not in place in 1914. They get in place between 1914 and 1937. The kinds of sentences you find in an *Analog* story, once [John W.] Campbell takes over *Analog*, nobody is writing in the Nineteenth Century, nobody is writing in the first two decades of the Twentieth Century. You have hints of it in something like *Ralph 124C 41+*. Even those, [Hugo] Gernsback thought of as didactic fables to teach science. *Ralph 124C 41+* was 1911. When you read it, it doesn't feel like science fiction, or doesn't feel like good, rich science fiction. It doesn't feel like science fiction feels if you read Heinlein's *Gulf* or even *Double Star* or any of the early Heinlein stories. Something else is going on. When I read Wells, it doesn't feel to me like science fiction. I can see it's interesting to someone who has later been trained to read science fiction. You read some of these early things, and you think, "Yeah, this is almost the same thing." I think that "almost" is real important. I think we do better to preserve the difference, rather than in an attempt to give ourselves a legitimating history, to cram all these things into a generic pattern into which I don't think they fit.

LM: A fellow sent me a manuscript about how Burroughs was hostile to the computer in the Fifties, and how that was a prevailing attitude back then...

SD: I'm curious. What work was Burroughs...oh, you mean William? I thought you meant Edgar Rice.

LM: But it does seem that many science fiction stories of the Fifties put forth the notion that computers would enslave us, and make us act the same way and think the same way.

SD: This is a very old notion, and I don't think a very interesting one.

LM: And now computers are...

SD: Are enslaving us. You spend two hours on your email every morning. Taking up all our time.

LM: William Gibson says that he doesn't own a television, but all of the time he's saved by not watching television he's lost on the Web.

SD: Exactly. Damn right. I don't own a television in Philadelphia.

LM: I tend to think of computers as being for my kids.

SD: And the kids who have grown up with them are a lot more at ease certainly than I am. It's all I can do to remember what my server name is. In fact, I can't right now.

LM: You seem to be unusually aware of avant-garde music and visual arts. Do you think of yourself as unusual in that regard?

SD: No. I think of myself as the world's most ordinary guy. I have a magpie kind of brain, and it's also like a

sieve—I don't remember anything anymore. I collect things, but I don't think of myself as particularly knowledgeable about anything, frankly. I know a bit about literature and a bit about literary theory, because I teach them. I know enough to keep the graduate students from going to sleep a little bit.

LM: You've been teaching for a long time.

SD: About fourteen, fifteen years now.

LM: Where are you teaching right now?

SD: Temple University.

LM: Are you alarmed by budget cuts, tenure going away, professors being laid off?

SD: It is kind of alarming, although the general attack on knowledge that I see going on is a little weird. I think the causes behind it are much more complex than people tend to think. I haven't figured it out, and it is distressing. Somebody sent me an article not too recently where if you're getting government grants, there are literally lists of phrases that you can't use in your government grant proposal. For instance, you can't get a government grant to do AIDS that has the phrase "anal sex" in it. This seems real weird to me.

LM: It sounds like what the Norm in *The Ballad of Beta-2* was focusing on. I'm also wondering how you feel about Vinge's conception of the Singularity.

SD: Is this Vernor?

LM: Vernor, not Joan.

SD: I haven't read any of Vernor's stuff for more than a decade, so I don't really know what he's doing now. I'll read your interview with him with great interest. I'm shamefully un-caught-up in terms of my science fiction reading.

LM: Do you think you'll get a chance to write more science fiction?

SD: I hope so.

LM: Are you writing non-fiction now because of time considerations?

SD: I don't write anything I don't enjoy writing, and I enjoy writing the non-fiction, I enjoy writing the not-science fiction, and I enjoy writing the science fiction. I hope I get a chance to write lots more in all of them.

LM: Is there something in particular that you're working on now?

SD: Another novel, another novel.



Interview With David Brin Loren Means

LM: I was talking with Samuel Delany about some ideas that he had about the difference between mundane literature and science fiction. The way he sees it, mundane literature is concerned with the subject, and science fiction is concerned more with the object.

DB: How interesting. Well, of course, it's always intimidating to hear "Samuel Delany says".

LM: But he's not really an intimidating guy. He refers to himself as an ordinary guy.

DB: Are you kidding? He's one of the intellectual masters of our field. My orientation about science fiction has

more to do with questioning common assumptions. Delaney is like that too.

LM: How do you picture science fiction fitting in the panorama of literature?

DB: Some people say that science fiction is general story telling free of restrictions on time and place. If you look at literature in almost every culture before, say, Thackeray, there were almost always fantastic elements in the stories, from Hesiod and Homer to the Japanese *Tales of Genji*, and so it could be said that science fiction is much more traditional in one respect. More traditional than so-called mainstream literature, with its narrow emphasis on a sliver of here-and-now. But I don't entirely accept that explanation. Here's a different perspective:

For most of human history, life was macroscopically changeless (society and such remained constant), and yet on the micro level, the personal level, constantly under transformation and change... often change for the worse. When we started getting better technologies, a person's life became more predictable, for example, less likelihood of sudden illness or death, and better warnings about crime and strife. But the outer world started changing rapidly. The social assumptions, the things they would see on the street, the political structures around them, became subject to sudden and major and wrenching transformations. So we moved from a vast era when your own life might change suddenly—your children might die, Vandals might come and burn your village—but you knew the world was going to look the same, dominated by one class of bullies with swords... bullies whose right to rule was justified by another group of guys in spangled robes or priests' gowns.

Here's the irony. In those days when society actually changed very little, literature was almost always about macroscopic, powerful change, titanic struggles, intervention by gods and demigods struggling with fantastic beasts.

Starting with Gutenberg, the Renaissance, sailing ships, gunpowder, and the beginnings of modern health and medicine, things began to change. Your own life gained some degree of predictability. If you had ten kids, there was a good chance that five of them would survive you. Under those circumstances, change took on a different look and feel. Meanwhile, the kings and the priests were the ones constantly fearing what would happen next. It's no accident, I believe, that during this time, literature started moving over to the personal, the subjective, and a myopic, very close focus. Certainly those prescribing and defining literature began to exclude thought experiments about dramatic change.

That's not surprising. Now it was the powerful who feared change, and the powerful have always been the ones who bought the beer for the bards. This is the flaw that Bill Moyers never pointed out in his long unctuously-respectful interviews with Joseph Campbell. The fly in the ointment, when Campbell spoke of the Eternal Hero, was all those bards in all those cultures spinning the same kind of tale, and Moyers never challenged Campbell to explain why. It's not that these stories are fundamentally human—although they do resonate, and one can learn a lot by studying Campbell's storytelling prescriptions—the reason they're all the same is that the bards in all these cultures had to suck up to the chiefs

and the kings who had the beer.

In a long era of social stability, those chiefs demanded tales about demigods and, well, chiefs. When social stability was threatened, the chiefs and lit professors insisted on stories that hewed to a narrow illusion of a stable world.

But we in science fiction don't have to do that. Our clientele is the people. No form of literature has ever been more relevant than science fiction. We live in times of transformation and change. That calls for a literature about change. Changing circumstances, even transformation of what it means to be human. Who needs so-called "eternal human verities"? I've always found that phrase creepy. These litprofs are telling us they feel so insecure about the continuing relevancy of their Masters' theses that any notion of human improvement is a thing to find terrifying, dispiriting, demeaning of the human spirit. The fundamental lesson they teach is that our children must make the same mistakes as we have made, endlessly and forever, never growing any wiser than us.

But think about the purpose of literature. At core, it is to cause people to empathize with, and feel, the emotions, the pain, the lessons learned by other people, either real or fictitious. If your literature is effective, shouldn't it result, at least partly, in some reader gaining insight? "Hey, fantastic! I'm glad I never experienced that! But vicariously I've learned the same lesson as the hero." *Reductio ad absurdum*. Isn't that one of the whole reasons we write?

LM: It sounds like you think humanity is improving.

DB: I'm often accused of cuckoo optimism, because I think that children can, at times, learn from the mistakes of their parents. My answer is, "I had better be right, or we're screwed." Look at how fashionable cynicism is. It's such a cliché. Find the optimistic voices out there. I don't do this because I'm by nature an optimist. I do it out of market incentive. The niche of optimism is so desperately unfilled that I get a lot of attention for it. I sell more books. Why shouldn't I fill the under-occupied niche? Isn't it hilarious how many people claim that sci-fi is filled with fizzing utopias, but other than *Star Trek* and a few books by Iain Banks and Kim Stanley Robinson, they can find no examples? Yet this notion persists, this bizarre notion. Anyway, if I'm wrong, we're all doomed, so I might as well make the bet that I can collect. If I bet along with everybody else that we're dismally stupid and bound to destroy ourselves, who will I collect from?

(For more on optimism, see <http://www.davidbrin.com/progressparadoxarticle.html>)

LM: Vernor Vinge seems to think technology is making our lives better, and it sounds like you would agree with that.

DB: I think technology is making our lives better – while we are using up the Earth at a tremendous pace. We cannot live the wonderful, decent, science-fictional lives that we do for very much longer without paying the piper. I have to believe we can pay that bill. With more efficient technologies, we might give today's American middle class level of comfort and education to every child on the planet, and teach them to be environmentalists as well, at considerably lower cost.



David Brin.

Photo by Jerry Bauer

If so – if we succeed – does that mean our children will be smug lotus eaters? I think not. Human beings inherently worry. For every couch potato smugly watching TV, there's another person who has joined the Age of Amateurs, investing hundreds of hours, thousands of dollars, on some pastime in a furious eagerness to be original at something. There are people out there jumping out of airplanes with surfboards. It may be silly, but it sure ain't decadent.

LM: Delany was saying, regarding utopias and dystopias, that there are people who think the city is a wonderful place and the country is not where they want to be, and there are other people who think the country is wonderful and the city is a terrible place...

DB: That's over-simplistic, because, of course, many of us live in the suburbs and participate in our kids' scouting troops. I grew up in LA, and went backpacking every chance I could. What does that make me? Our whole civilization is based on the premise of having a cake, eating it, watching it grow larger, and aggressively shoving pieces in the face of the poor. The only way we can possibly get out of this mess is if we don't swallow the bullshit about zero-sum games. We have to make the pie a whole lot bigger and share it awful fast, or poor people elsewhere in the world are going to take our pie away from us.

LM: When I saw you in at ConJose in San Jose, there were several seminars that Vernor Vinge was giving about the Technological Singularity. What is your take on

that?

DB: Vernor is a very wise man. He's a contrarian. When he is with fuzzy extropians – people who fizzle that we are about to become tech-gods – he mentions the downside. When he is among pessimists, he holds out promise and hope. Contrarians like Vernor and me used to be burned at the stake for constantly saying "Yes, but" to anyone we're with. Today, we're well paid and interviewed. I'm loyal to a civilization with values like that. Why wouldn't I be? I like people who don't set me on fire.

LM: You've addressed the Libertarian Party's organization, right?

DB: I see no conflict. The message has always been, "Don't trust ideologies. They are seductive, they aim at feeding the self-righteous impulse, rather than the will to find pragmatic solutions to problems." Take this dismal Left-Right political axis we've endured since 1789. For heaven's sake, in twenty years of daring people to define "Left versus Right," I've yet to find one person who could do it with a simple, three-sentence answer that the next person would agree with. And yet we use it as a stupid metaphor whose only affect is to hamper flexible thinking. Why would people deliberately cripple themselves that way? Obviously, at some level, the Libertarians are right in that in the long run we need to raise a generation capable of making its own decisions. Obviously the liberals are right that we won't have such a generation so long as a third of the children are ill-fed. I'll take solutions wherever I can find them. The same holds for feminism. As long as I live my life dedicated to one basic goal: raising a generation of boys who are twice as responsible and accountable, and a generation of girls who turn into women who are twice as confident and empowered, what right has anybody to define me by some litmus test? As a feminist-liberal-libertarian-capitalist-Earth-lover, I'll go for whatever practical measures will achieve that better future of stand-up, educated, individualist-empathic adults. And the ideologues can go to hell.

LM: Greg Bear seems to have a conception of intelligent evolution taking place right now.

DB: If we leave it to evolution, the process is going to be a lot more painful. Take John W. Campbell's famed expression, "An armed society is a polite society", beloved by the National Rifle Association. It would seem truly logical, so why has it utterly failed in places like Texas? Because young men have rage-response patterns inherited from the Neolithic, when there were no guns. If we armed everybody to the teeth, Campbell's old saw would eventually come true. All the hot-tempered young men would die without passing on their genes. After a thousand years, we'd all be a lot more calm and polite. Personally, I'd rather not run that experiment. We may be able to accomplish the same end by much faster and much gentler means.

LM: Would you like to say something about your experience in Hollywood with the film of *The Postman*?

DB: That's another topic people can read about in detail at my web site. If you go to Hollywood with one of your babies, with one of your ideas, their standard operating procedure is to hold you down, rip open your chest, tear out your still-beating heart, bounce it around the room, cover it with filth, and then – if you're very, very lucky – they'll stuff

it full of cash and sew it back in your chest. There are five things that you want to have happen when you sell your book to Hollywood, and I hope they all happen to all of you:

1. It can at least be morally related to what you were trying to say.

2. It can be exactly your story, adapted to the screen.

3. It can be a wonderful movie.

4. A successful movie.

5. They can treat you well.

I got one out of five, but it was the only important one.

LM: That was the first one.

DB: That's right. Somehow Kevin Costner nailed the deep inner meaning of my book... after scooping out and throwing away all the brains. That hurts, but a LOT less than if it had been the other way around.

LM: I watched the film last night. I kept thinking, why didn't they just do it right?

DB: Egotism. Mind you, there are other good things about that film. It was made by the same guy who made *Dances With Wolves*, so it's visually gorgeous. If he had born pig-ugly, Costner would have an Academy Award as a cinematographer. Another thing I tend to be grateful for with Costner is that he rescued the movie from a screenplay that was truly evil, and substituted a screenplay that was kind of sweet, even if it didn't make a lot of sense. Anyway, what's the sense in grouching? I'm not going to bitch and complain. There is a movie out there of my book, and it's not evil. It's even kind of pretty. Worse things have happened to people in Hollywood. You've got to be cheerful, if you have any excuse. And hope for better the next time.

LM: William Gibson seems to feel that it's better just not to make a film of a book, that's you get a better experience just reading the book.

DB: Yes, that's true, but there's also the point that the two are not mutually exclusive. If he meets people in airports and folks ask him "So what have you written?" I'll bet he mentions *Johnny Mnemonic*. It gives you a way to connect with people quickly, efficiently. People get a little thrill. Why cheat them of that? And why cheat himself of some pleasure? I don't understand why people make things so hard on themselves.

LM: You teach physics at San Diego State University?

DB: I got my undergraduate degree at Cal tech, in astrophysics, and then did my doctorate at UC San Diego. They recently had a gathering of UCSD Science-Fictional alumni. That was fun. It turns out to have been a hotbed. Nobody knows why. Maybe something in the water. Kim Stanley Robinson, Vernor Vinge, myself. Greg Bear is a San Diegan, but he went to San Diego State.

LM: You and Vernor were both teaching at San Diego State.

DB: I taught part-time for a while. He was a tenured professor.

LM: You seem to be particularly interested in defining humanity through interaction with postulated alien life forms.

DB: Science Fiction continues the long human

literary tradition of contemplating the Other. (Hence the title of my book *Otherness*.) Often the Other was a metaphorical creature. Poor hapless Minotaur. Unfortunate bitter Medusa. But just as often, it was a demigod or a person facing the unusual. We've always done that. It's a question of horizons. When you have a full belly and your planet is fully explored, it's only natural that both your threat horizons and your tolerance horizons should stretch farther. Today, our official morality, at least, includes all humanity, all sexes and races, within the big tent of those worth deserving protection. Those whom it is murder to kill. We are far from completing that transformation, but the mere fact that it is official is an historical anomaly and deserves notice. Upon hearing that there are dolphins stranded upon the beach, most of us would hurry toward the shore with as much enthusiasm and speed as our great-great-great-grandparents would have, upon hearing the same news, but with very different intent for what to do when we get there. I call that progress.

LM: I get the impression that William Gibson and Neal Stephenson are abandoning science fiction, but it seems that you still think of science fiction as a powerful approach to literature.

DB: I don't see any point in deserting the one who brought me to the party. I consider science fiction to be a license to explore. That doesn't mean I don't want to do a lot of other things. I just finished a hundred-and-forty-four-page graphic novel, based on my Hugo-listed novella, *Thor Meets Captain America*. What the French call a *bains dessinait*. A hard-cover graphic novel called *The Life Eaters* – very dark. An exploration of an alternate world in which the Nazis succeeded at something bizarre. Loads of fun.

LM: It seems that mundane literature deals with trying to give a picture of what's going on right now, and science fiction is talking about what doesn't exist but could, and has to make that believable but at the same time give us a sense of wonder.

DB: I made one distinction, and that has to be with transformation and change. Here's another one: the most popular articles that receive the most hits on my web site are still the ones discussing *Star Wars* and *Lord of the Rings*. I make the distinction between Romanticism and the Enlightenment world view. They were once allies, but parted company once they started having victories against their common enemies, the priests and monarchies. Romanticism has a very different view of time. Almost every human civilization believed in a Golden Age long ago, when people were better, and closer to the gods, but fell from grace because of some hubris, some mistake. The only people who really mattered were those who were born exceptional: demigods, superheroes, elves, princes. The Romantic Movement has always distrusted democracy, production, industry, urban life, education, social mobility, craftsmanship, and co-operation—emphasizing instead the particular, the mysterious, the hierarchical, the nostalgic and the feudal.

It's a legitimate and outstanding human worldview. It has a hell of a lot longer track record than the Enlightenment. But I know where my loyalty lies. I'd have been a peasant or a burned heretic by now, if it weren't for Enlightenment civilization. In the long run, even the Earth will be better off, because no civilization ever created so many

environmentalists. Western culture, with science fiction at the lead, is the first to move the notion of a Golden Age from the gloomy past into the future. Something that might be built by our grandchildren, if we raise them properly. A notion epitomized by *Star Trek 2, the Wrath of Khan*.

Alas, romanticism is fighting back hard, as typified by *Star Wars* and Tolkien... and even *Star Trek*! In *Star Trek 3*, the director and screenwriter return, precisely and religiously, to the Romantic world view, checking off every box of the *Frankenstein* ethos. The new world that Kirk's wife and son had created by picking up God's powers is, by that token, automatically evil, corrupt, falling to pieces, and kills its creator, Kirk's son. Is it any wonder that people like the Faustian *Star Trek 2* better than the Frankensteinian *Star Trek 3*?

LM: Are there particular writers who inspired you?

DB: In general, Aldous Huxley, James Joyce. I grew up astonished by Fred Pohl, Poul Anderson, Ursula LeGuin and James Tiptree, Jr. A good historian will get you through a cold month, and leave you all the more dedicated to seeing that those poor people of the past did not strive and suffer in vain.

LM: I've been reading Robbe-Grillet and Claude Simon. It seems to me that they break up the narrative into tiny units and move them around freely. Does science fiction usually get that avant-garde?

DB: Is that a dare? Once there was a contest to write a science fiction story precisely 250 words long. I find stuff like that irresistible. It's very hard to fit a high concept into something that size.

LM: Are there younger writers who you think are particularly interesting?

DB: At the hard sf end, there's Will McCarthy, Ken Wharton, Linda Nagata, Kay Kenyon, all doing wonderful work. At the less intellectual end, but good reading – Howard Hendrix, Eric Flint, lots of fine writers.

LM: Do you like the English writers?

DB: I think Iain Banks is one of the great hopes for science fiction. He and Kim Stanley Robinson are just about the only people who dare try to portray a society that our great-grandchildren might even want to live in. It's a challenge that most of us simply shy away from. It's far easier to write a dystopia. Almost pathetically easier.

LM: Do you like China Mieville?

DB: That's moving a bit away from the hard sf end. I thought you were asking my expertise, instead of just what I like. China Mieville is wonderful. Vivid and fizzing with joy, just below a cynical surface.

LM: I'm running into artists who are generating art on computers.

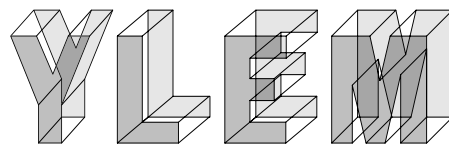
DB: You mean writing?

LM: Writing and visual art.

DB: Jim Burns, who has done a lot of my covers, switched from oils to acrylics to air brush to computers, and he does almost everything by computers. I talked to Michael Whalen recently, and he finds that transition disturbing. He's staying with his brushes. It takes all kinds.



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Barbara Lee
ylem@ylem.org
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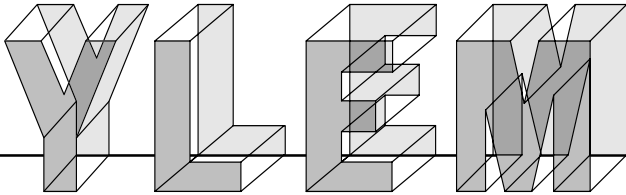
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YLEM
P.O. Box 2590
ALAMEDA, CA
94501
USA

**CONTACT
INFORMATION**

YLEM MAIN CONTACT

P.O. Box 2590
Alameda, CA 94501
<http://www.ylem.org>
ylem@ylem.org

YLEM MEMBERSHIP ISSUES

members@ylem.org

YLEM JOURNAL ITEMS

Loren Means
149 Evelyn Way
San Francisco, CA 94127 USA
lorenmea@pacbell.net

